NAD SERVICE MANUAL

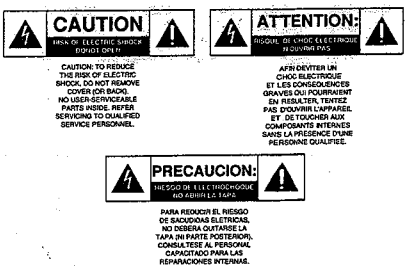
MONITOR SERIES

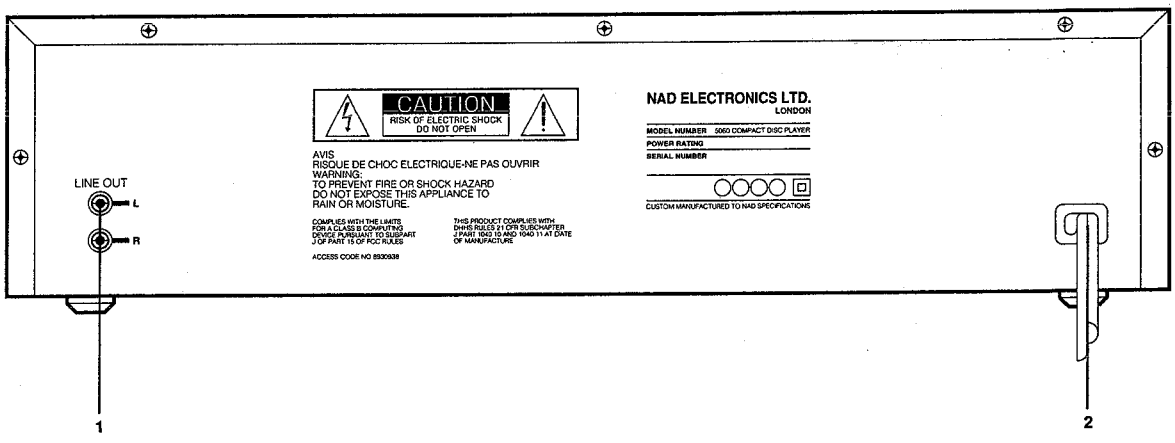
5060

MULTIPLE PLAY COMPACT DISC PLAYER

REAR PANEL CONNECTIONS

NAD 5060

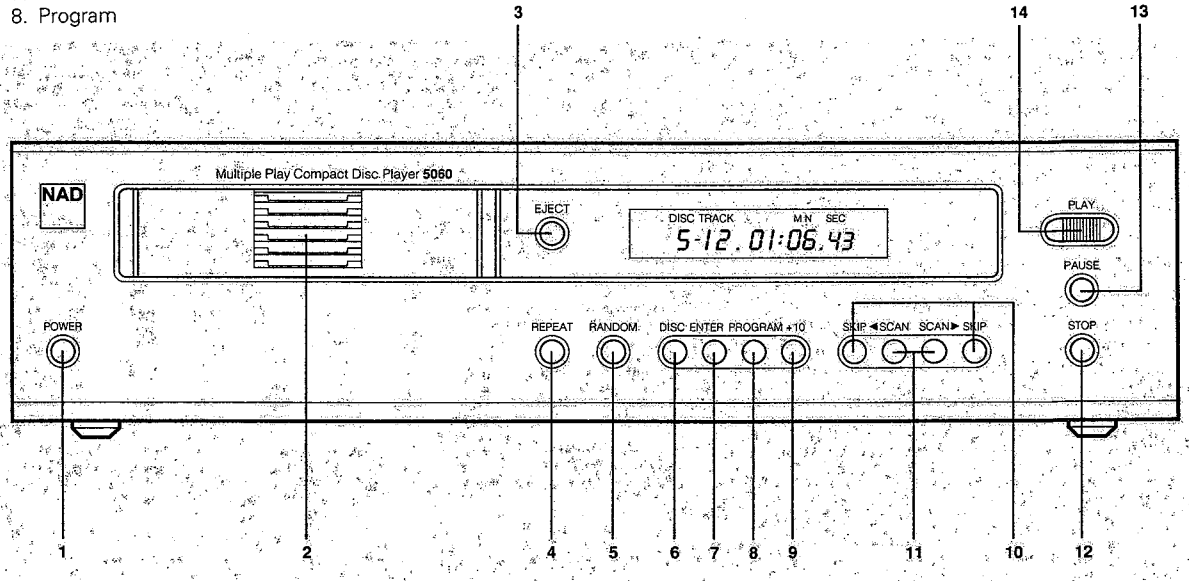

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
ATTENTION:
AFIN DEVITER UN CHOC ELECTRIQUE ET LES CONSEQUENCES GRAVES QU POURRAIENT EN RESULTER, TENTEZ PAS D'OUVRIR L'APPAREIL ET DE TOUCHER AUX COMPOSANTS INTERNES SANS LA PRESENCE D'UNE PERSONNE QUALIFIEE.
PRECAUCION:
PARA REDUCIR EL RIESGO DE SACUDIDAS ELETRICAS, NO DEBERA QUITARSE LA TAPA (NI PARTE POSTERIOR). CONSULTESE AL PERSONAL CAPACITADO PARA LAS REPARACIONES INTERNAS.


CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
AVIS
RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR
WARNING:
TO PREVENT FIRE OR SHOCK HAZARD DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
COMPLIES WITH THE LIMITS FOR A CLASS B COMPUTING DEVICE PURSUANT TO SUBPART J OF PART 15 OF FCC RULES
THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR SUBCHAPTER J PART 1040 10 AND 1040 11 AT DATE OF MANUFACTURE
ACCESS CODE NO 8930938
NAD ELECTRONICS LTD.
LONDON
MODEL NUMBER 5060 COMPACT DISC PLAYER
POWER RATING
SERIAL NUMBER
CUSTOM MANUFACTURED TO NAD SPECIFICATIONS
LINE OUT
L
R
1
2

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.	The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

FRONT PANEL

1. Power On/Off
2. Six-Disc Magazine
3. Magazine Eject
4. Repeat
5. Random
6. Disc
7. Enter
8. Program
9. +10
10. Skip Forward/Back
11. Scan Forward/Back
12. Stop
13. Pause
14. Play



SPECIFICATIONS–NAD MONITOR SERIES 5060
MULTIPLE PLAY COMPACT DISC PLAYER

Disc capacity	120 mm (80 mm with adaptor)	
Programming capacity	32 tracks	
Digital-to-Analogue conversion	16-bit linear dual DAC	
Digital filter	104-point linear-phase	2-stage
Analogue filter	3-pole active	
Frequency response	5 Hz - 20 kHz	+0/–0.5 dB
De-emphasis error	< ± 0.5 dB	
THD (at 0 dB, 1 kHz)	0.035%	
Dynamic range	94 dB	
Linearity	±1 dB at –90 dB	
S/N ratio A weighted	de-emphasis off	109 dB
	de-emphasis on	112 dB
Channel separation	1 kHz	–95 dB
	10 kHz	–75 dB
Wow and flutter	Unmeasurable (quartz crystal accuracy)	
Output level at 0 dB	2.0 V rms	
Output impedance	470 ohms	
Digital error correction	CIRC with double error correction in C1 and C2.	

PHYSICAL SPECIFICATIONS

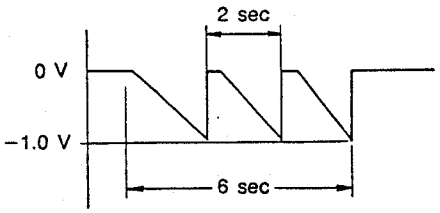
Width x Height x Depth	435 x 115 x 377 mm
Net weight	7.1 kg
Shipping weight	8.4 kg

Test Equipment
- Oscilloscope with 50MHz Bandwidth or greater
- AC Voltmeter
- Frequency Counter
- Test Disc A: SONY YEDS 7
- Test Disc B: SONY YEDS18

1. Confirmation of Focus Actuator Operation

Oscilloscope Settings
- DC coupling
- 0.1/div when 10 :1 probe is used.
- 0.5 sec/div

1) Connect the Oscilloscope to C20 [–] and Ground.
2) Press the Power on switch and load test disc A.
3) Press PLAY.
4) During the first 6 seconds of operation confirm the waveform is similar to that shown in Fig. 1.



0.5 sec div/time

Fig. 1

2. Adjustment of VCO

1) Connect TEST to GROUND and push the Power switch ON. **—Do not load a disc.—**
2) Disconnect TEST from GROUND and connect ASY test point to GROUND.
3) Connect the frequency counter to the PLCK test point and GROUND.
4) Adjust VR1 until the counter reads 4.3218MHz ±10KHz.

3. Adjustment of FE Bias

A. Oscilloscope Setting
- AC Coupling
- 50mV/div when 10 :1 probe is used.
- 0.50μs time base

1) Connect the Oscilloscope to the RF test point and ground, push the Power switch ON.
2) Load test disc A and press PLAY.
3) Adjust VR3 until the eye pattern is at maximum and is as shown in Fig. 2.

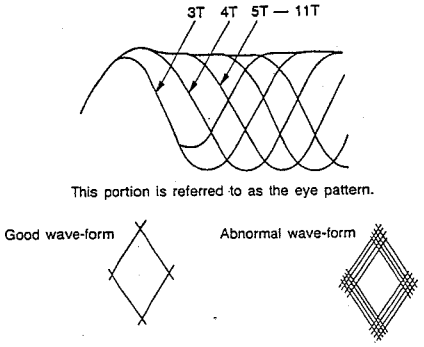


Fig. 2

B. Oscilloscope Setting
- DC Coupling
- 10mV/div when 10 :1 probe is used.
- 2 to 20mS/div time base

1) Connect the Oscilloscope to TE test poiint and Ground, push the Power switch ON.
2) Load test disc B
3) Press the PAUSE key.
4) Press the SKIP key and hold down.
5) Confirm the waveform is as shown in Fig. 3.
6) The amplitude of the waveform should be greater than 200mV pk to pk.

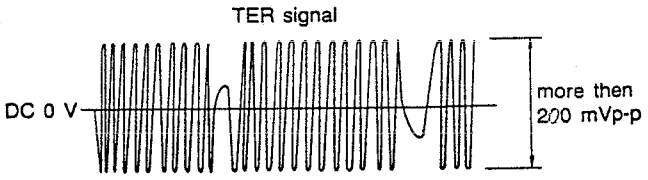


Fig. 3

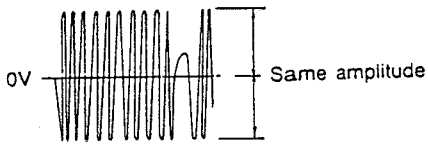
4. EF Balance Adjustment

Oscilloscope Setting
- DC Coupling
- 10mV/div when 10 :1 probe is connected.
- 20mS/div time base

1) Connect the Oscilloscope to TE and Ground.
2) Load test disc B.
3) Press the PAUSE key.

* 4) Press the SCAN key and hold down.

* 5) Adjust VR2 until the waveform is symmetrical around 0V DC, as shown in Fig. 4.



Rating DC offset — Less than ±15 mV

Fig. 4

5. Operating Test

A. Display Test
1) Push the Power switch ON whilst also pressing both the SCAN and PLAY keys together for about 3 seconds.
2) All characters of the display should now be activated as shown in Fig. 5.

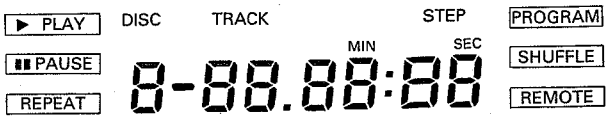


Fig. 5

B. Switch Test
1) Press the Power switch ON whilst also pressing both the SCAN and PAUSE keys together for about 3 seconds.
2) The Player is now in the Switch Test Mode.
3) PLAY should be displayed when any key is pressed (except Power ON/OFF).
4) Repeat for all keys.

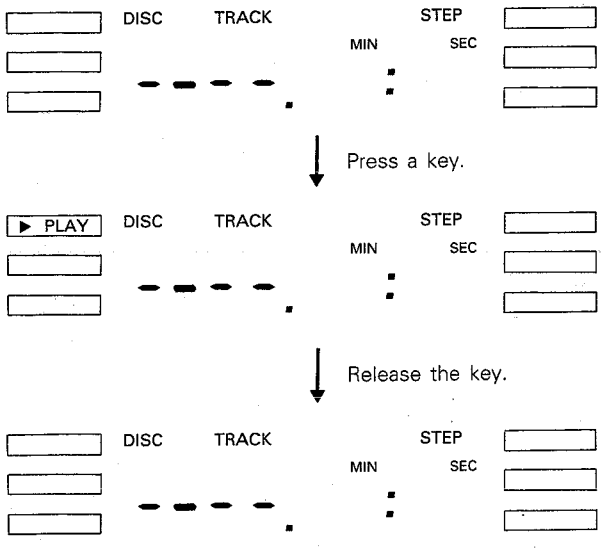


Fig. 6

C. Operation Test (Mechanism)

Before Commencing This Test:

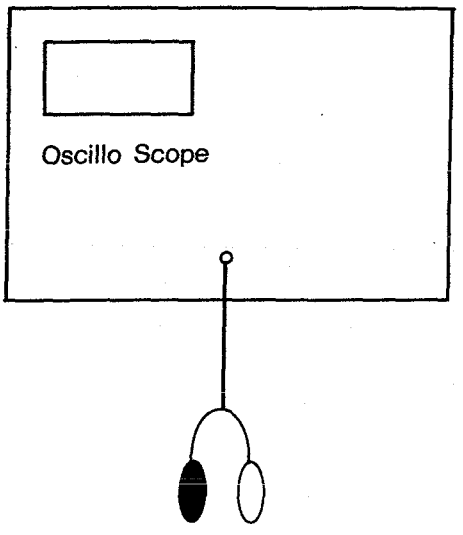
1) Press the Power switch ON whilst also pressing both the SCAN and the STOP keys together for about 3 seconds.
2) The Player is now in the Operation Test Mode.
3) Load six discs into the magazine, then load the magazine into the player.

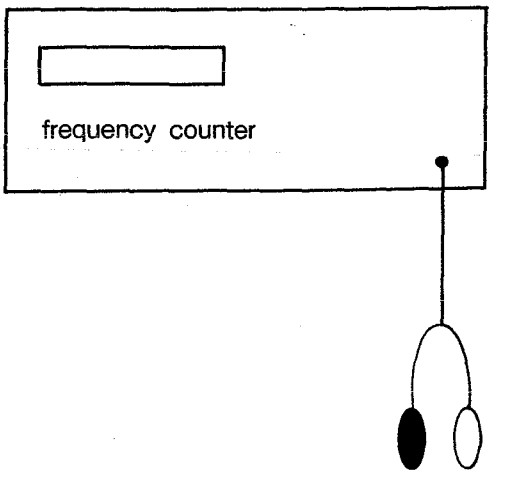
Note: Disc 2 must have more than 2 tracks total.
Disc 3 must have more than 10 tracks total.
All slots in the magazine must have discs loaded.

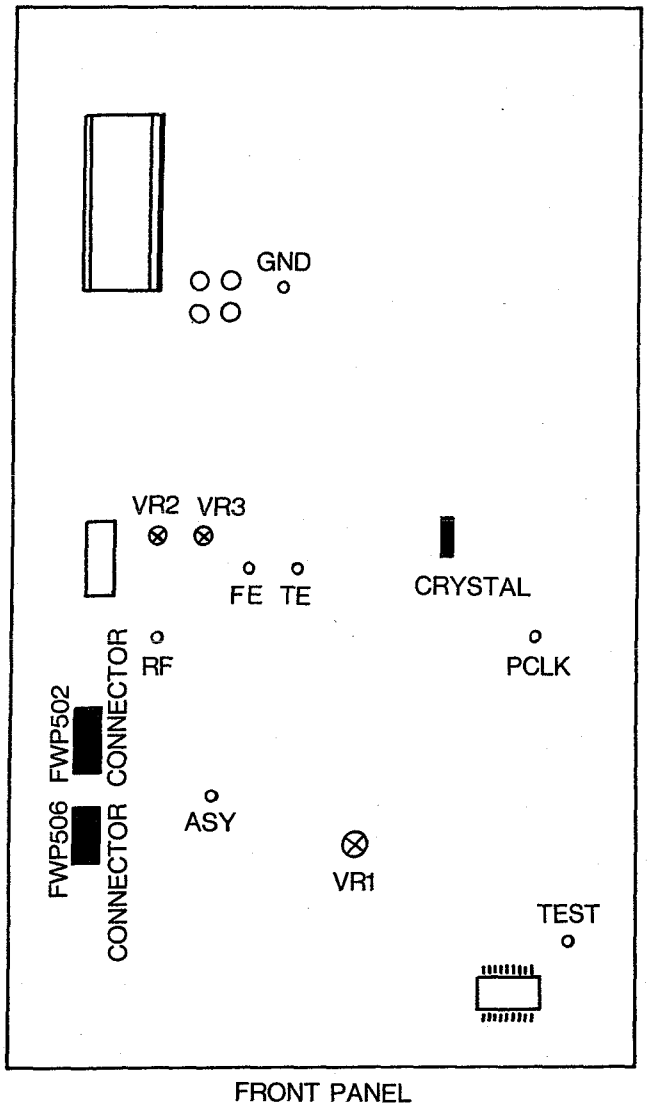
4) Program more than 3 tracks from the discs.
5) Press and hold the Reverse (<) SCAN key then press the EJECT key, the player will then start playing the following sequence automatically.

Step	disc	track	disc	track
1	1	1	6	1
2	2	1	2	2
3	3	10	3	2
4	Programmed tracks from (4) above			
5	Two tracks selected at random (shuffle mode)			
6	Eject			

- Each track will be played for ten seconds.
  If there is any malfunction of the mechanism during the tests the above procedure will stop and the display will show at which step and track the problem occurred.

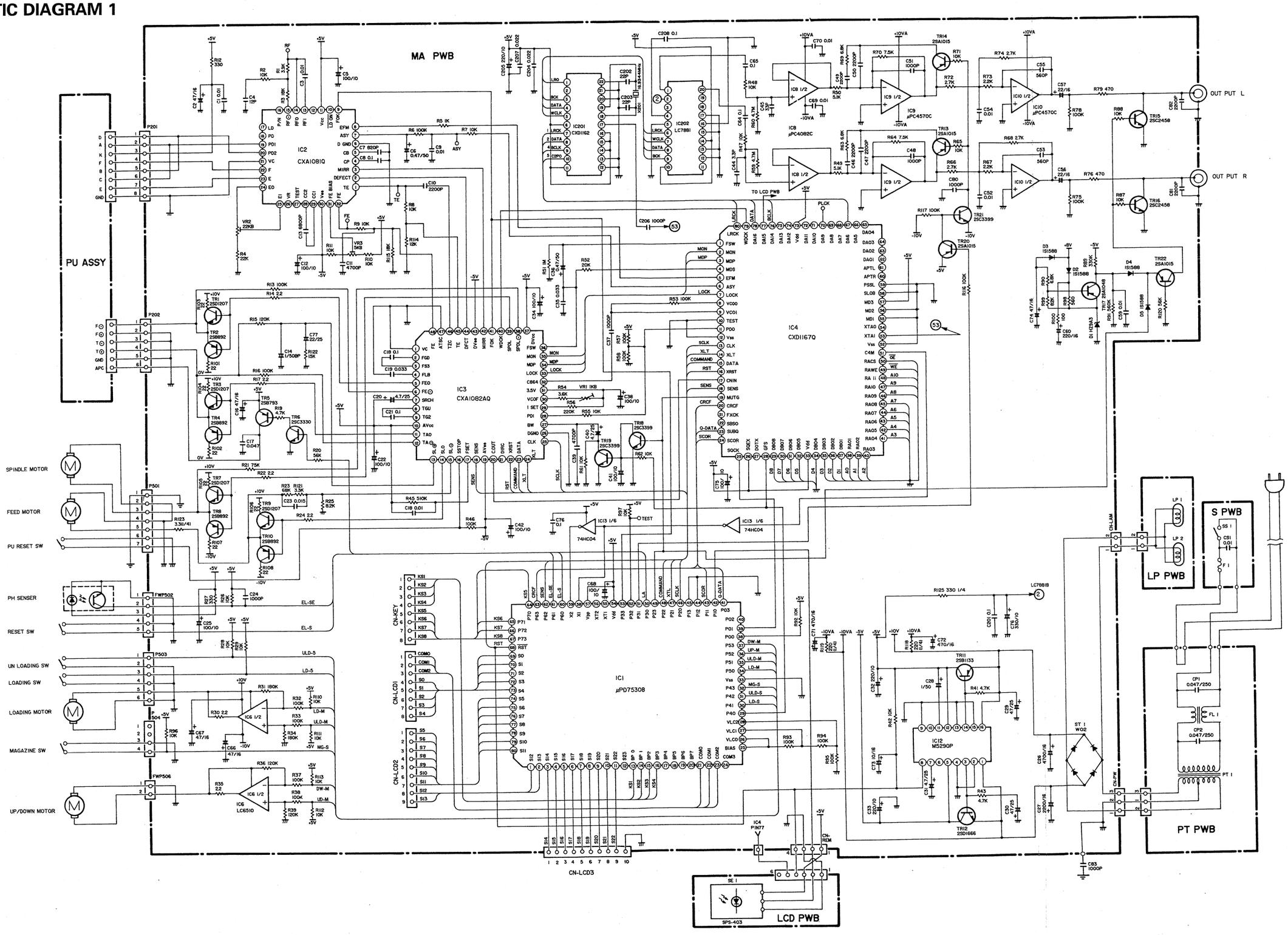

Oscillo Scope


frequency counter


GND
VR2
VR3
FE
TE
CRYSTAL
RF
PCLK
FWP502
CONNECTOR
FWP506
CONNECTOR
ASY
VR1
TEST

FRONT PANEL

SCHEMATIC DIAGRAM 1



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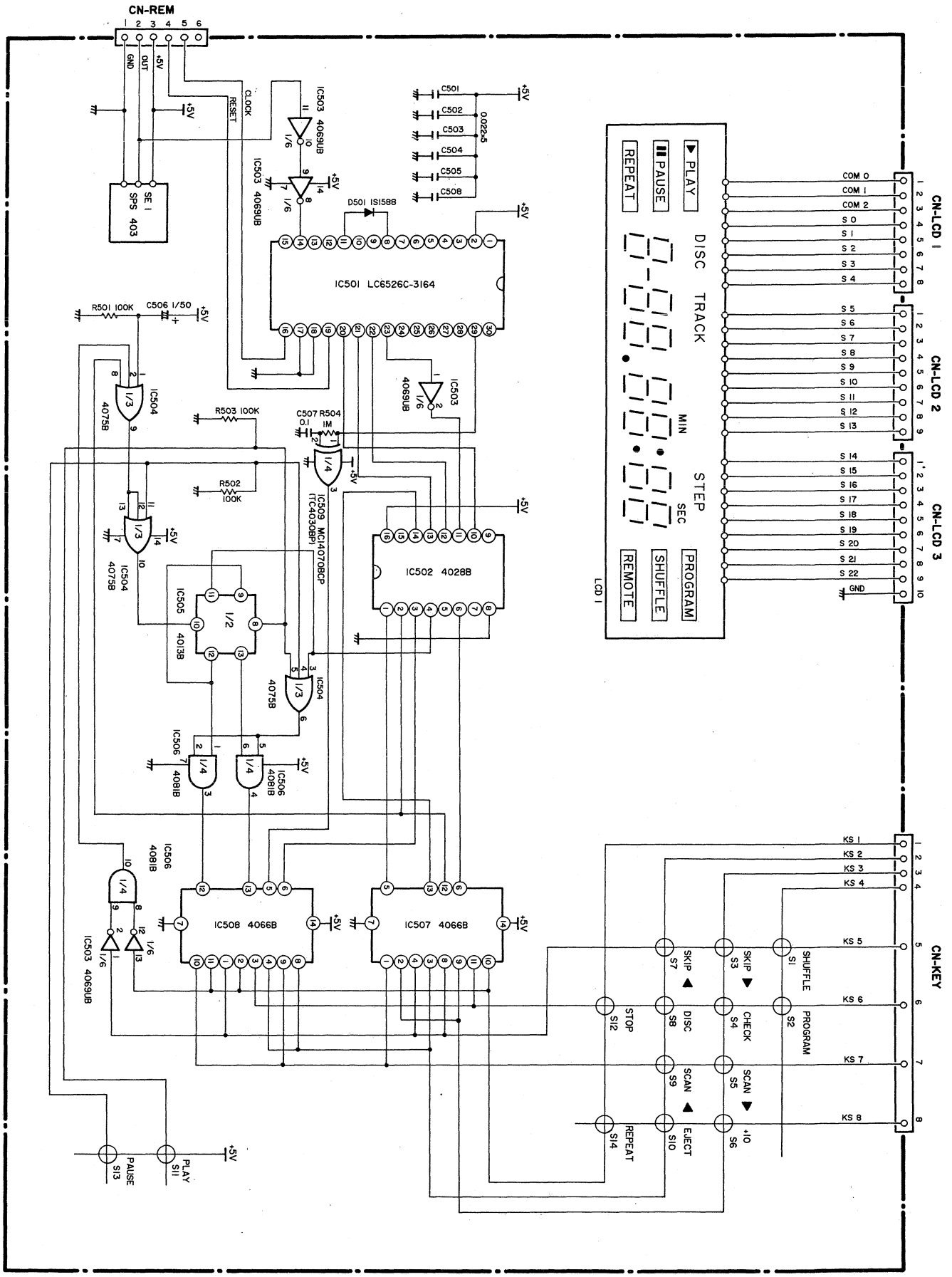
SCHEMATIC DIAGRAM [2]



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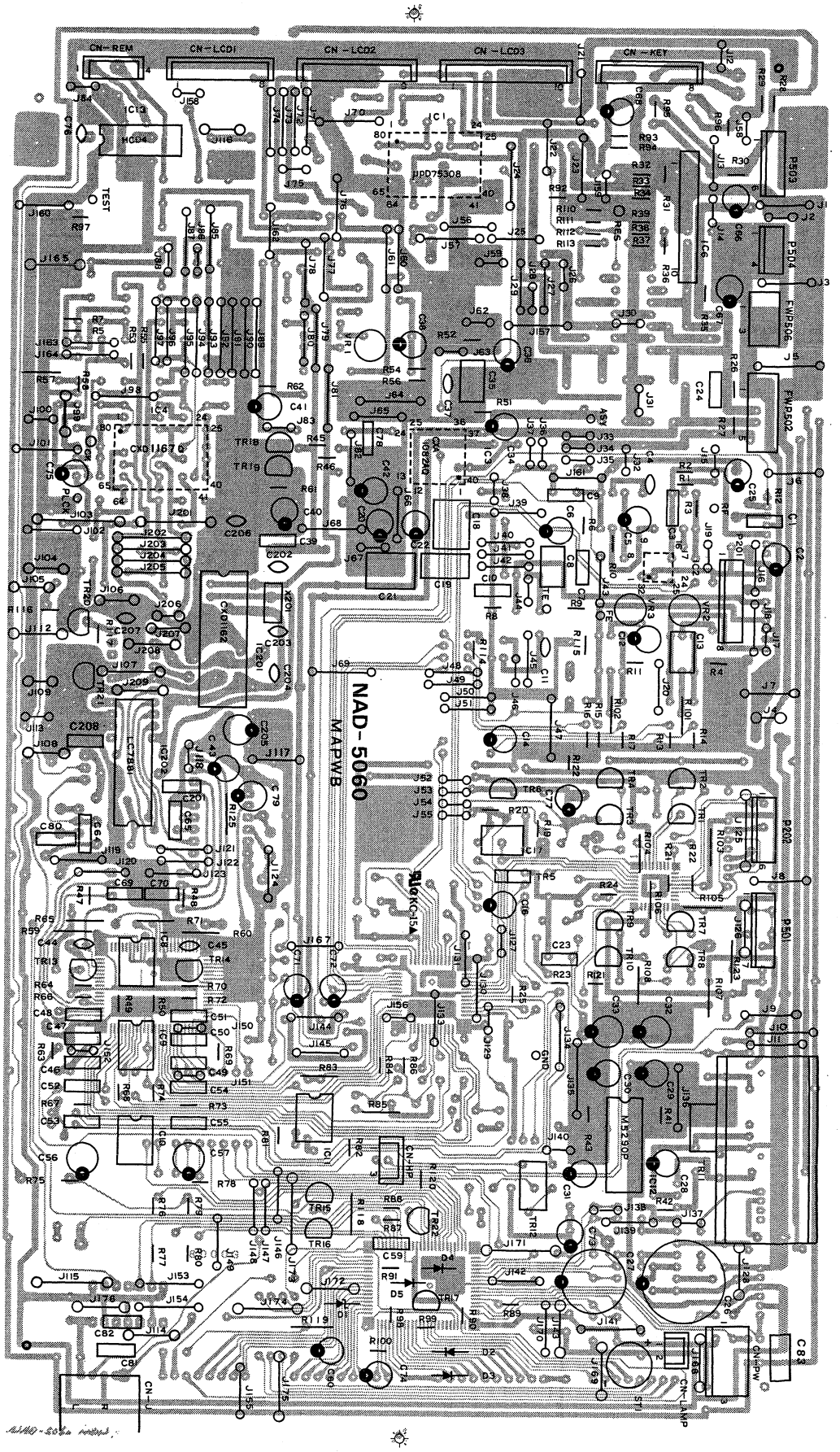
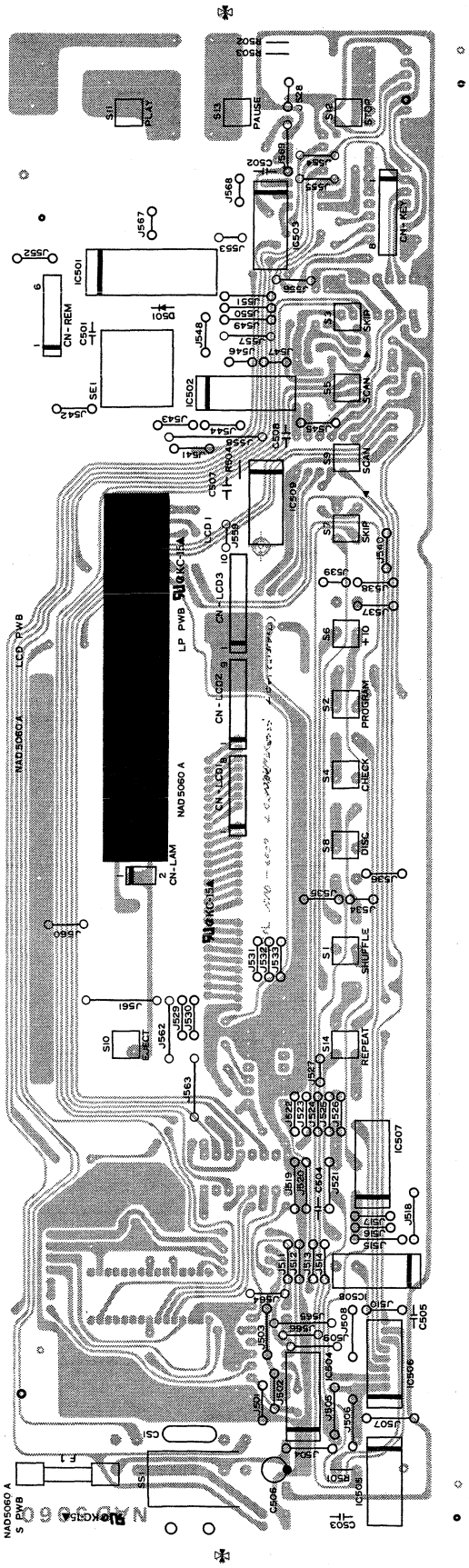
PRINTED CIRCUIT BOARD

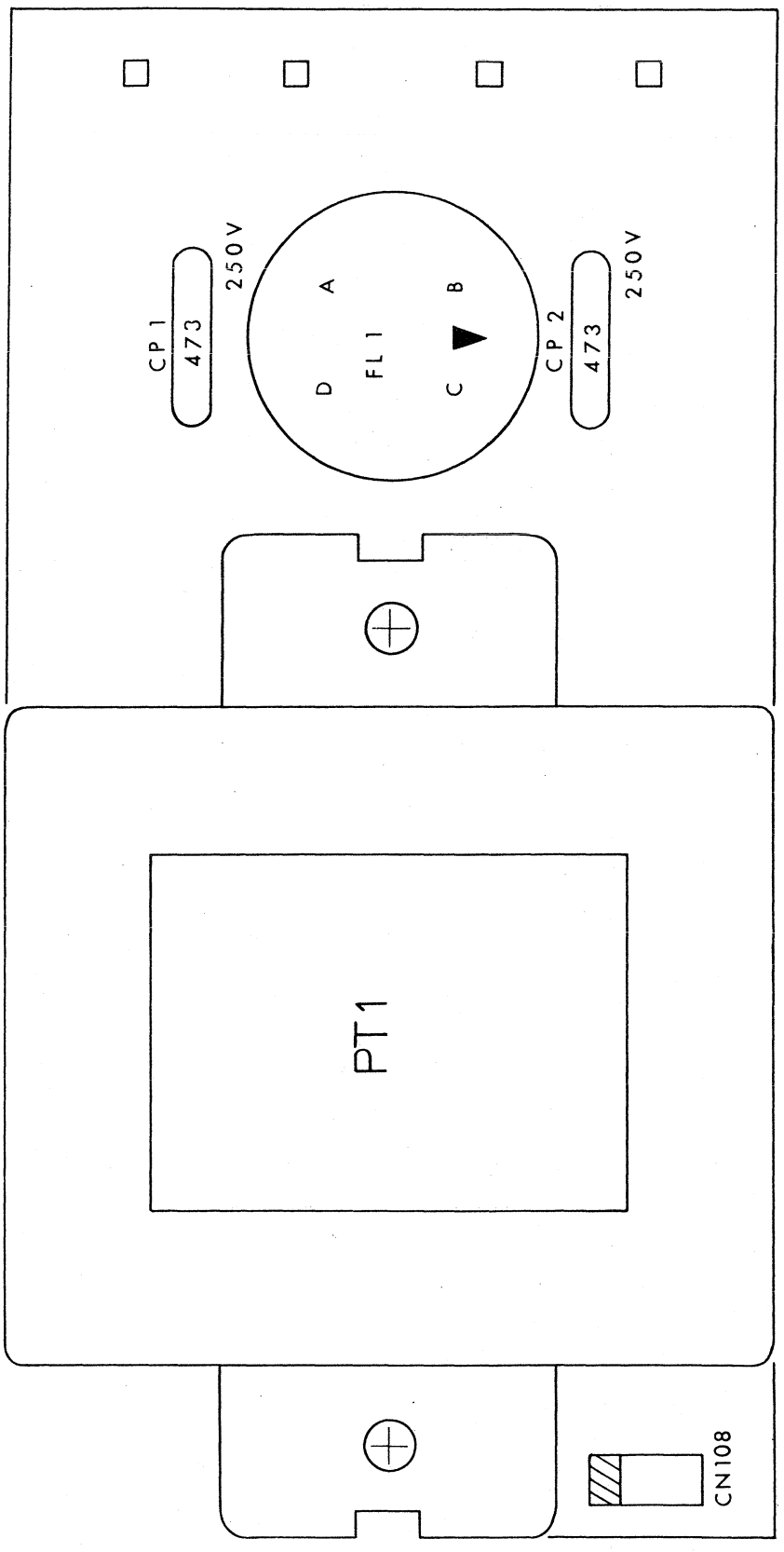
MAIN SECTION (TOP VIEW)



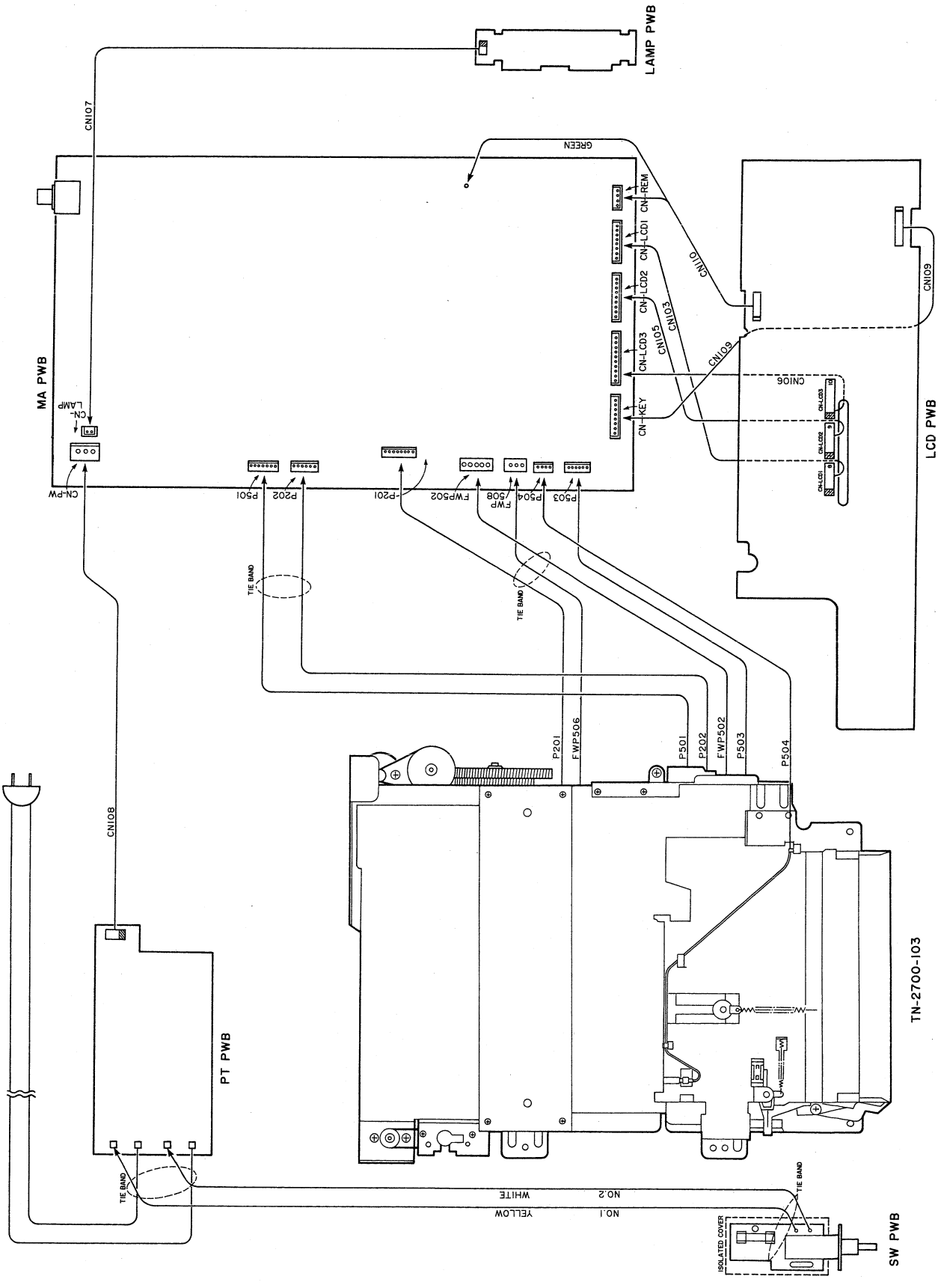
LCD PWB


LCD PWB
NAD5060A
LP PWB
NAD5060 A
CN-LCD1
CN-LCD2
CN-LCD3
CN-LAM
CN-REM
PLAY
PAUSE
SCAN
SKIP
PROGRAM
CHECK
DISC
SHUFFLE
REPEAT
EJECT
IC501
IC502
IC503
IC504
IC505
IC506
IC507
IC508
IC509
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
NAD5060 A
S PWB

POWER TRANSFORMER PWB



INTER BOARD WIRING DIAGRAM

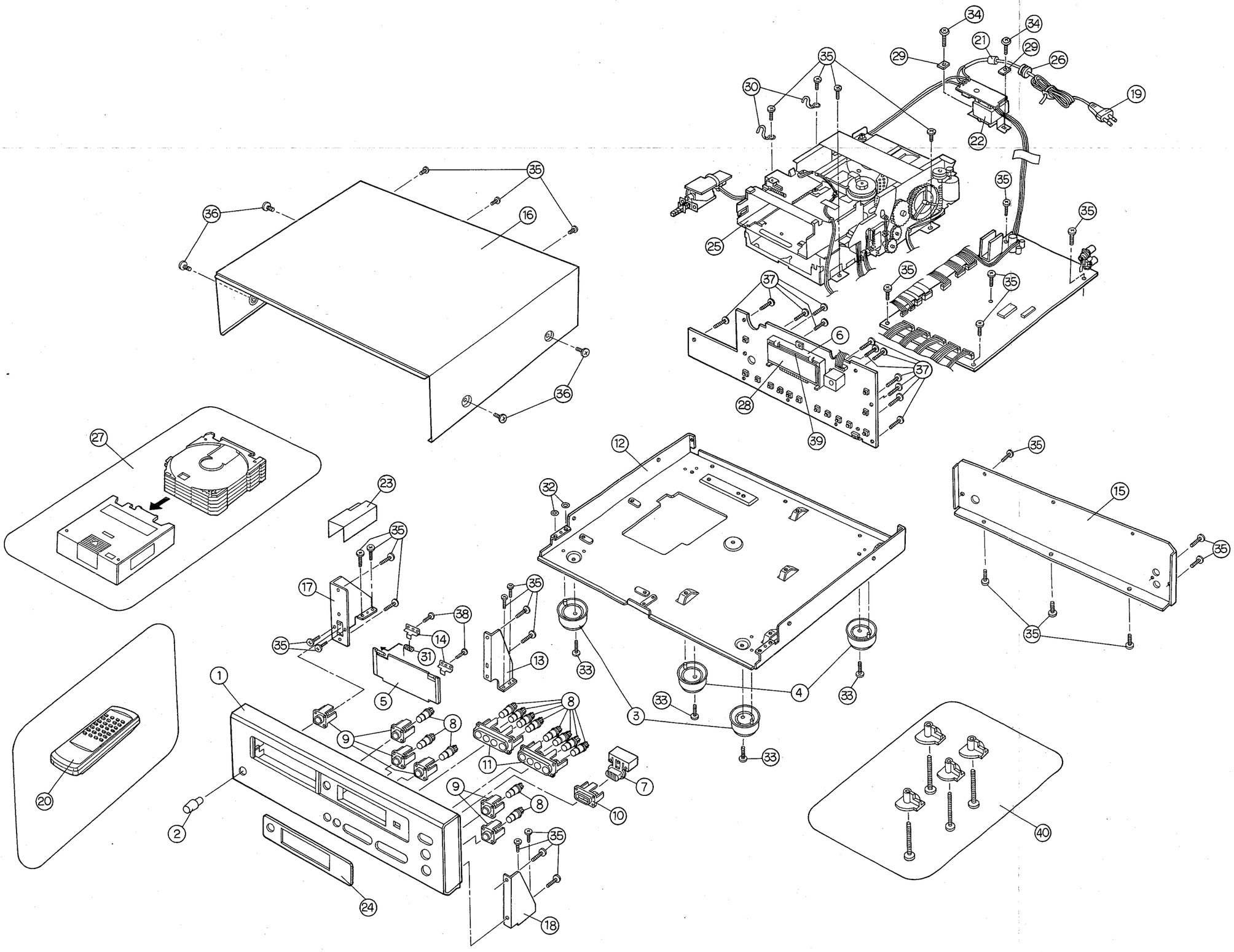


REPLACEMENT PARTS

REF. NO.	MSTR CODE	PART CODE NO.	Q'TY	DESCRIPTION
	500-00M	APB-00M-5060	1	MAIN PCB ASSY
TR17		TTR-100-1048	1	Tr. 2SA-1048G TPE4 TO
TR15, 16		TTR-3GR-2458	2	Tr. 2SC-2458GR TPE4
TO				
TR2, 4, 8, 10		TTR-200-0892	4	Tr. 2SB-892S AE SA
TR6		TTR-300-3330	1	Tr .2SC-3330S AC SA
TR1, 3, 7, 9		TTR-400-1207	4	Tr. 2SD-1207S AE SA
TR13,14,20,22		TTR-3GR-1015	4	Tr. 2SA-1015GR
TO				
D2, 3, 4, 5		UDI-200-2473	4	Diode 1S-2473 or 1588
IC12		AIC-000-5290	1	IC M-5290 P MI
IC13		AIC-3HC-0004	1	IC TC74HC 04AP TO
IC9, 10		AIC-50C-4570	2	IC UPC4570C NEC
IC8		AIC-500-4082	1	IC UPC4082C NEC
IC6		AIC-600-6510	1	IC LA-6510 SA
TR18, 19, 21		ATR-300-3399	3	Tr. 2SA-3399 AC
SA				
TR12		ATR-400-1666	1	Tr. 2SD-1666 S
SA				
TR5		ATR-200-0793	1	Tr. 2SB-793 S
MA				
D1		PDI-3A3-0009	1	Diode HZ-9A3 HI
SJ1		PDI-700-5002	1	Diode W02 GI
P504		PKJ-125-0481	1	POST 4P B4B-PH-K-S
P202, 503		PKJ-125-0681	2	POST 6P B6B-PH-K-S
P501		PKJ-125-0781	1	POST 7P B7B-PH-K-S
P201		PKJ-125-0881	1	POST 8P B8B-PH-K-S
CN-LAMP,LMP1		SKJ-125-0281	1	POST 2P B2B-EH
CN-REM,LCD1		SKJ-125-0481	1	POST 4P B4B-EH
CN-KEY,LCD1		SKJ-125-0881	2	POST 8P B8B-EH
CN-LCD2		SKJ-125-0981	1	POST 9P B9B-EH
CN-LCD3		SKJ-125-1081	1	POST 10P B10B-EH
CN-PW		SKJ-125-0381	1	POST 3P B3V-VH
FW-P506		SKJ-420-0370	1	POST 3P 3P-RVQ
FW-P502		SKJ-420-0570	1	POST 5P 5P-RVQ
		APP-010-1095	7	PIN 1φ x 9.5
IC2		AIC-900-1081	1	IC CXA-1081 Q
SO				
IC3		AIC-900-1082	1	IC CXA-1082 AQ SO
IC4		AIC-900-1167	1	IC CXD-1167 QZ SO
IC201		AIC-900-1162	1	IC CXD-1162 SO
IC202		AIC-600-7881	1	IC LA-7881 B SA
TR11		ATR-200-1133	1	Tr. 2SB-1133 R
SA				
IC1		AMU-105-0308	1	CPU UPD75P308GF-472-339
		AJA-495-0342	1	PIN JACK 2P
X201		AVR-MHZ-16934	1	CERAMIC OSCILLATOR 16.934
R101,102,103,104,105,106,107,108		URS-130-J220	8	Res. 1/4 JT52-220
R59, 60		URS-130-J475	2	Res. 1/4 JT52-475
R118, 119		URS-130-J221	2	Res. 1/4 JT52-221
R125		URS-130-J331	1	Res. 1/4 JT52-331
R14,17,22,24,30,35		URS-170-J2R2	6	Res. 1/6 JT52-2R2
R123		URS-170-J3R3	1	Res. 1/4 JT52-3R3
R100		URS-170-J101	1	Res. 1/6 JT52-101
R12, 27		URS-170-J331	2	Res. 1/6 JT52-331
R76, 79		URS-170-J471	1	Res. 1/6 JT52-471
R98		URS-170-J561	1	Res. 1/6 JT52-561
R67, 73		URS-170-J222	2	Res. 1/6 JT52-222
R5		URS-170-J102	1	Res. 1/6 JT52-102
R49, 50		URS-170-J512	2	Res. 1/6 JT52-512
R121		URS-170-J332	1	Res. 1/6 JT52-332
R1		URS-170-J392	1	Res. 1/6 JT52-392
R19, 41, 43		URS-170-J472	3	Res. 1/6 JT52-472
R63, 69, 90		URS-170-J682	3	Res. 1/6 JT52-682
R64, 70		URS-170-J752	2	Res. 1/6 JT52-752
R25		URS-170-J842	1	Res. 1/6 JT52-842
R2,7,8,9,10,11,26,28,29,42,47,48,55,61,62, 65,71,87,88,92,96,97,110,111,112,113		URS-170-J103	26	Res. 1/6 JT52-103
R114		URS-170-J123	1	Res. 1/6 JT52-123
R122		URS-170-J153	1	Res. 1/6 JT52-153
R3, 115		URS-170-J183	4	Res. 1/6 JT52-183
R52		URS-170-J203	1	Res. 1/6 JT52-203
R4		URS-170-J223	3	Res. 1/6 JT52-223
R20, 120		URS-170-J563	3	Res. 1/6 JT52-563
R23		URS-170-J683	1	Res. 1/6 JT52-683
R21		URS-170-J753	1	Res. 1/6 JT52-753
R99		URS-170-J823	1	Res. 1/6 JT52-823
R6,13,16,32,33,37,38,46,53,75,78,93,94,95, 116,117		URS-170-J104	16	Res. 1/6 JT52-104
R15, 36, 39		URS-170-J124	3	Res. 1/6 JT52-124
R31, 34		URS-170-J184	2	Res. 1/6 JT52-184
R56		URS-170-J224	2	Res. 1/6 JT52-224
R89		URS-170-J334	1	Res. 1/6 JT52-334
R45		URS-170-J514	1	Res. 1/6 JT52-514
R91		URS-170-J564	1	Res. 1/6 JT52-564
R51		URS-170-J105	6	Res. 1/6 JT52-105
R66, 68, 72, 74		URS-330-F272	4	Res. 1/5 T29FX272
R54		URS-330-F362	1	Res. 1/5 T29FX362
R57, 58		URS-330-F104	2	Res. 1/5 T29FX104
C44, 45		TCT-167-C3R3	2	Cera-Con. SL 3R3 C YRT
C4		TCT-167-J120	1	Cera-Con. SL 120 J YRT
C37		TCT-177-K102	2	Cera-Con. B 102 K YRT
C206		TCT-177-Y102	1	Cera-Con. YB 102 K YRT
C11		TCT-177-Y472	1	Cera-Con. YB 472 K YRT

REF. NO.	MSTR CODE	PART CODE NO.	Q'TY	DESCRIPTION
C76		TCT-184-Z104	1	Cera-Con. IEF 104Z-S YRT
C202, 203		TCT-167-N220	2	Cera-Con. NPO 220
C204, 207		TCT-177-Y223	2	Cera-Con. YB 223 K YRT
C6, 36		TCT-351-7R47	2	Elect-Con. S 50-0.47
C28		TCT-351-71R0	1	Elect-Con. S 50-1
C14		TCT-351-71R0BP	1	Elect-Con. BP 50-1
C20, 31, 40		TCT-351-54R7	3	Elect-Con. S 25-4.7
C29, 30		TCT-361-5470	2	Elect-Con. S 25-47
C77		TCT-361-5220	1	Elect-Con. S 25-22
C73		TCT-351-4100	1	Elect-Con. S 16-10
C56, 57		TCT-351-4220	2	Elect-Con. S 16-22
C2,16,66,67,74		TCT-361-4470	5	Elect-Con. S 16-47
C60		TCT-381-4221	1	Elect-Con. S 16-220
C71, 72		TCT-381-4471	2	Elect-Con. 16-470
C5,12,22,25,34,38,41,42,68,75		TCT-351-2101	10	Elect-Con. S 10-100
C32, 33, 43, 205		TCT-361-2221	4	Elect-Con. 6x11 10-220
C79		TCT-361-2331	1	Elect-Con. S 10-330
C53, 55		TCT-557-K561	2	Mylar Con. 50 K561
C7		TCT-557-K821	1	Mylar Con. 50 K821
C24,48,51,80,83		TCT-557-K102	5	Mylar Con. 50 K102
C10,46,47,49,50,81,82		TCT-557-K222	7	Mylar Con. 50 K222
C39		TCT-557-K472	1	Mylar Con. 50 K472
C13		TCT-557-K682	1	Mylar Con. 50 K682
C1,3,9,52,54,59,70,78		TCT-557-K103	9	Mylar Con. 50 K103
C23		TCT-557-K153	1	Mylar Con. 50 K153
C19, 35		TCT-557-K333	2	Mylar Con. 50 K333
C17		TCT-557-K473	1	Mylar Con. 50 K473
C8,18,21,64,65,201,208		TCT-557-K104	6	Mylar Con. 50 K104
C27		TCT-326-4222	1	Elect.-Con. 13x16 16-2200
C26		TCT-390-4472	1	Elect.-Con. 16x30 16-4700
VR2		AJT-VR2-20KB	1	Adjust. R. 20KB
VR3		AJT-VR3-05KB	1	Adjust. R. 5KB
VR1		AJT-VR1-01KB	1	Adjust. R. 1KB
		AHG-005-0343	1	Heat Sink ML3000
	5060-LCD-1	APB-LCD-5060	1	LCD PCB ASSY
S1~14		ASW-T66-3753	14	Tact Switch R66-3753
SE-1		APA-006-0403	1	Sensor Unit SPS-403
LCD1		APA-006-0053	1	LCD GTD-6A53P
CN-REM		ACN-110-5060	1	Connector No. 110
CN-LLD1		ACN-103-8000	1	Connector No. 103
CN-LLD2		ACN-105-8000	1	Connector No. 105
CN-LLD3		ACN-106-8000	1	Connector No. 106
CN-KEY		ACN-109-5060	1	Connector No. 109
IC501		AIC-600-6526	1	IC LC6526C-3164
IC502		AIC-T01-4028	1	IC MC14028BCP/TC4028BP
IC503		AIC-T01-4069	1	IC MC14069BCP/TC4069BP
IC504		AIC-T01-4075	1	IC MC14075BCP/TC4075BP
IC505		AIC-T01-4013	1	IC MC14013BCP/TC4013BP
IC506		AIC-T01-4081	1	IC MC14081BCP/TC4081BP
IC507, 508		AIC-T01-4066	1	IC MC14066BCP/TC4066BP
IC509		AIC-MC1-4070	1	IC MC14070BCP/TC4070BP
R501,502,503		URS-170-J104	3	Res. 1/6 JT52-104
R504		URS-170-J105	1	Res. 1/6 JT52-105
C501,502,503,504,505,508		TCT-167-K223	6	Cera.-Con. B 223 K
C506		TCT-351-71R0	1	Elect-Con. S 50-1
C507		TCT-557-K104	5	Mylar Con. 50 K104
D501		UDI-200-1588	1	Diode 1S-1588
		ACP-004-4157	1	Diffuse Plate
		AMP-002-0672	1	Lamp House
	5060-LMP-1	APB-LMP-5060	1	Lamp PCB Assy
PL1, 2		ALP-005-0315	2	Lamp 18V150
CN-LAM		ACN-107-8000	1	Connector No. 107
	5060-PWS-1	APB-PWS-5060	1	Power Switch PCB Assy
SS1		ASW-P00-1101	1	Power Switch JPW1101
		XCP-272-7974	2	Fuse Holder 2727974
CS1		ACT-110-Z103	1	Cera-Con. DE7150FZ103PVAI
F1		AFU-522-0500	1	Fuse MQ2-0.5A (UL/CSA)
F1A			(1)	Fuse BEQ-0.25A (FTZ/BS/SAA)
	5060-PT-1	APB-PWB-5060	1	Power Trans. PCB ASSY
		APP-110-1140	4	Square Pin 1x14
CN108		ACN-108-8000	1	Connector No. 108
FL1		AKC-006-0760	1	Line Filter
CP1, 2		ACT-592-K473-M	2	Film-Con. ECQ-E 2A 473 K
SE1		SPS403		pH Sensor

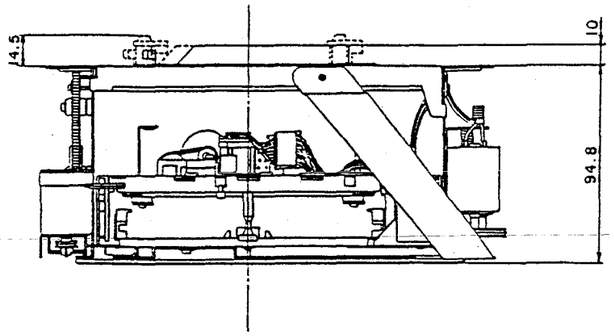
EXPLODED VIEW (CABINET ASS'Y)

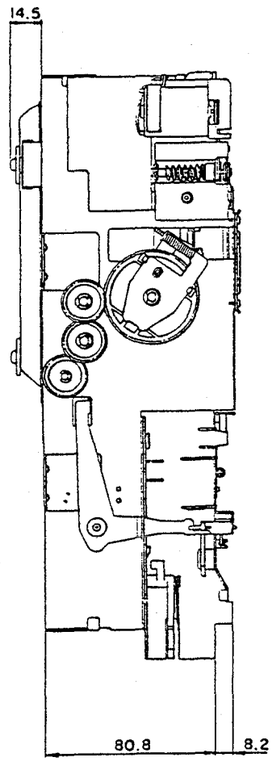


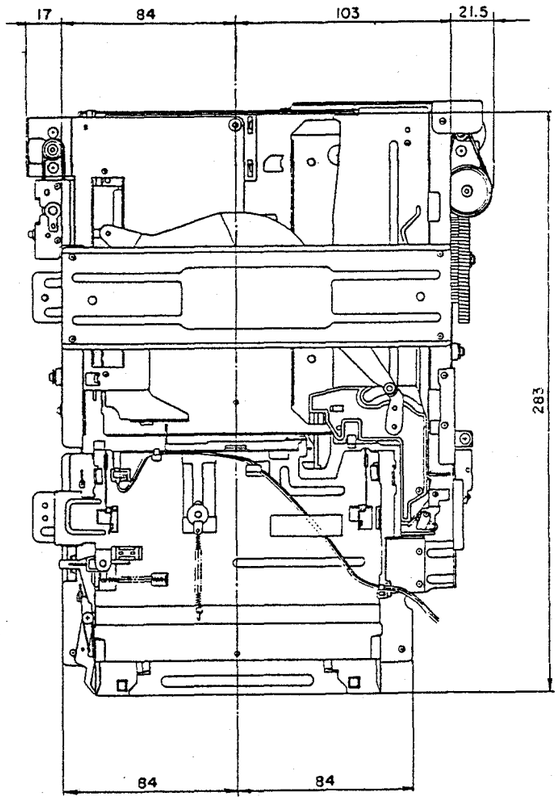
EXPLODED VIEW (CABINET, CHASSIS, PACKING)

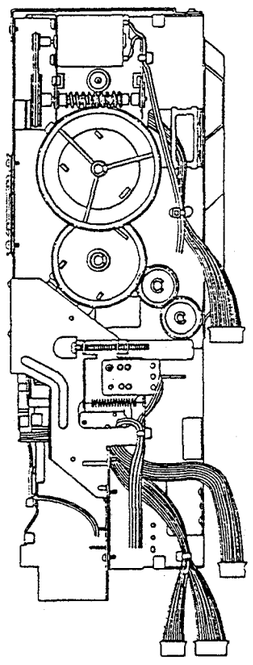
PART NO.	MSTR CODE	PART CODE NO.	Q'TY	DESCRIPTION
1		AFP-001-0338	1	Front Panel
2		ANV-003-0999	1	Power Knob
3		AMP-084-4532	2	Front Leg
4		AMP-084-4533	2	Rear Leg
5		AFP-002-0766	1	CD Lid
6		AMP-002-0672	1	Lamp House
7		928-849-7001	1	Play Button
8		928-849-7100	13	Eject Button
9		928-849-7400	6	Button Flame A
10		928-849-7500	1	Button Flame B
11		928-849-7701	2	Button Flame D
12		ACP-001-0256	1	Bottom Chassis
13		ABK-003-0860	1	Center Bracket
14		ABK-004-4536	2	Lid Bracket
15		ACP-002-0675	1	Rear Chassis
16		ACP-001-0255	1	Top Cover
17		ABK-003-1003	1	Side Bracket (L)
18		ABK-003-0862	1	Side Bracket (R)
19		APC-005-0357-2	1	AC Cord STP-2 (UL/CSA)
20		APA-005-5060	1	Remote-Control 18KEY
21		BP53RA100060N0M	(1)	Ferrite Core (FTZ)
22		ATS-DUA-8057	1	Transformer 120 (UL)
23		4-4565	1	Isolated Case
24		AMH-003-1000	1	LCD Window
25		AMK-915-2101	1	CD Mechanism 2700-103
26		AMP-005-0047	1	Cord Stopper
27		AMP-005-0358	1	Magazine Box (6)
28		APA-006-0053	(1)	LCD GTD-6A53P
29		ACP-004-4093	2	PT Metal
30		ACL-30S	2	Wire Clamper
31		ASP-004-4535	1	Lid Spring
		AGM-004-4139	2	Cushion for Leg
		AGM-005-0360	3	Cushion for PCB
		APW-332-5060	1	Caution Label
		APW-342-5060	1	Fuse Label
		APW-372-5060	1	Manufacturer Label
		ATS-DUA-8057BS	(1)	Transformer 240V (BS)
		ATS-DUA-8057V	(1)	Transformer 220V (FTZ)
		ATS-DUA-8057S	(1)	Transformer 240V (SAA)
		4-4334	(1)	AC Cord 240V (BS)
		KKJ1004A	(1)	AC Cord 220V (FTZ)
		4-4342	(1)	AC Cord 240V (SAA)
32			1	3ϕ Washer 0.5t
33			4	Screw Bind ST 3x8
34			2	Screw Bind ST 4x8
35			32	Screw Bind ST 3x5
36			4	Screw Bind Black 4x6
37			12	Screw Bind BT 3x10
38			2	Screw Bind BT 2.6x8
39		ACP-004-4157	1	Diffuse Plate
40			4	Screw of Transport
			1	Power Indicate Label (UL/CSA)
			(1)	Power Indicate Label (FTZ)
			(1)	Power Indicate Label (SAA)
		ABT-109-0003	2	Battery UM3
		ACO-875-0355	1	Signal Cord (Output Cord)
		APW-352-5060	1	Warrantee Card
		ASH-002-0764	1	Snow-Box R/L
		AIB-001-5060	1	Gift Box (Carton)
		AMA-000-5060	1	Instruction Manual
		APB-001-5060	1	Poly Bag
		APB-002-5060	1	Poly Bag forl/M
		AMS-001-5060	1	White Sheet
		4-4565	1	Isolated Case
			1	Serial Label
			1	Warning Label
			2	Mirror Matt

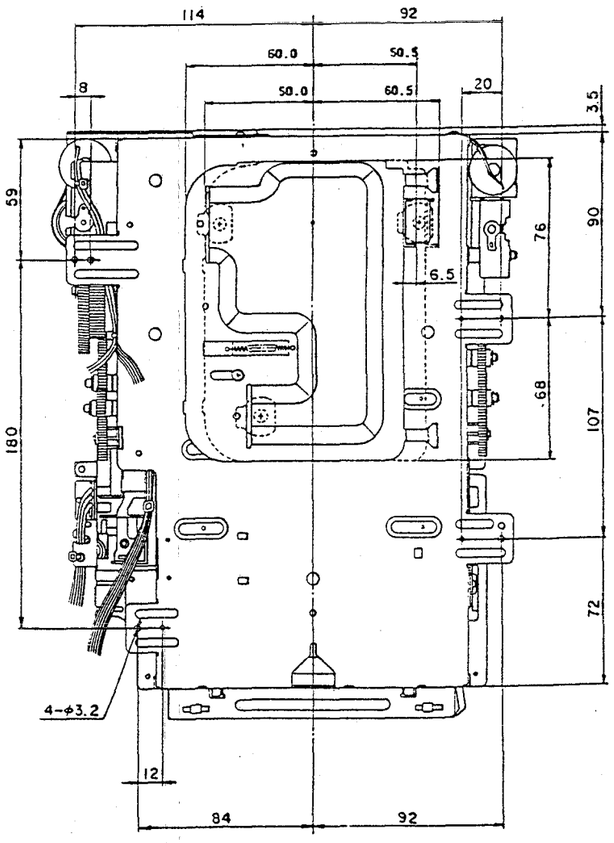
MECHANISM MEASUREMENT

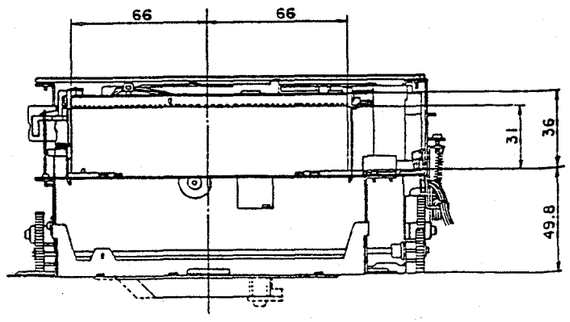








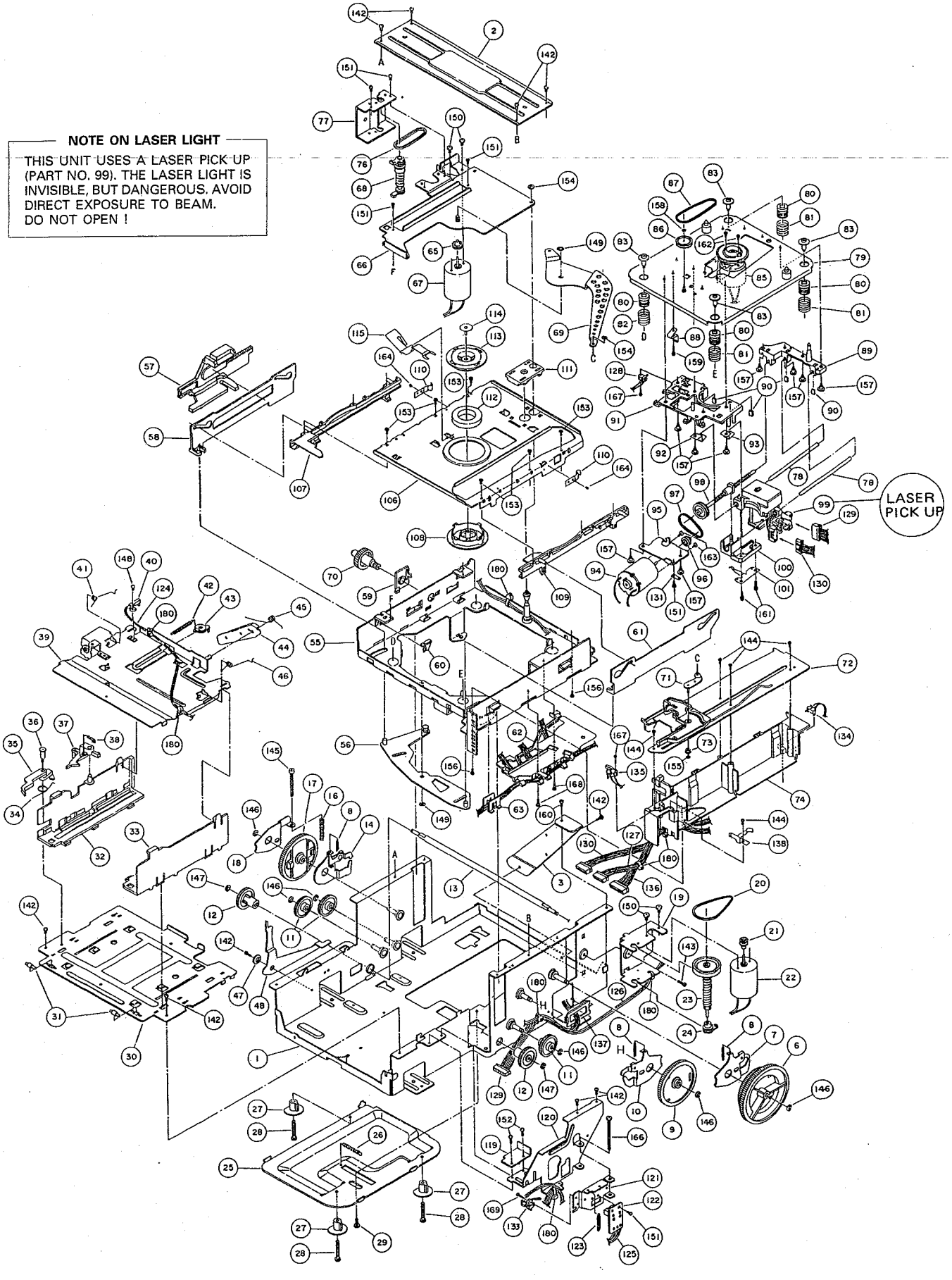




MECHANISM ASS'Y
EXPLODED VIEW

NOTE ON LASER LIGHT

THIS UNIT USES A LASER PICK UP (PART NO. 99). THE LASER LIGHT IS INVISIBLE, BUT DANGEROUS. AVOID DIRECT EXPOSURE TO BEAM. DO NOT OPEN !



MECHANISM PARTS LIST

PART NO.	ITEM
1	Chassis (Calk)
2	Reinforcement Board
3	Reinforcement BKT
4	
5	
6	Lift-Gear A
7	Lift-Lever A (Calk)
8	Lift-Lever Spring
9	Lift-Gear B
10	Lift-Lever C (Calk)
11	Lift-Gear D
12	Lift-Gear E
13	Gear-Shaft
14	Lift-Lever E (Calk)
15	
16	Lift SP
17	Lift-Gear C
18	Lift-Lever F
19	Lift M Bracket
20	Lift M Belt
21	Lift M Pulley
22	Motor RF-370C-15370
23	Worm-Gear Ass'y
24	Sleeve
25	Bottom Cover
26	Bottom Cover (SP)
27	Spacer (Transportation Screw)
28	Collar Screw A
29	Collar Screw B
30	Guide Base
31	Roller
32	Magazine Guide L
33	Magazine Guide R
34	Release-Lever SP
35	Release-Lever
36	Collar Screw
37	Lock-Lever
38	Lock-Lever SP
39	Holder Cover
40	Leaf Switch
41	M-Holder SP L
42	Magazine Lock Lever SP
43	Magazine Lock Lever
44	Trace Stopper
45	Trace Stopper SP
46	M-Holder SP R
47	Collar
48	Kick-Lever
49	
50	
51	
52	
53	
54	
55	Lift Base (Calk)
56	Guide Plate Arm (Calk)

PART NO.	ITEM
57	Slide Plate
58	Guide Plate (L)
59	Shaft Holder
60	Guide Piece
61	Guide Plate (R)
62	Wire Holder
63	Wire Clamp
64	
65	Slide M Pulley
66	Slide M. BKT (Calk)
67	Motor RF-310T-10470
68	Worm Ass'y
69	Slider Arm (Calk)
70	Slide Worm Wheel
71	Slide Coupler Arm (Calk)
72	Drive Plate Ass'y
73	Coupler Arm Collar
74	Drive Base
75	
76	Slide M Belt
77	Slide Wheel BKT
78	PU Shaft
79	T/T B (Calk)
80	Floating Rubber
81	Floating SP (B)
82	Floating SP (A)
83	Floating Screw
84	
85	Motor Ass'y
86	T/T B Pulley
87	Turn-Table Belt
88	SP Plate
89	Guide Shaft Base
90	Holder Piece
91	Feed Motor Base
92	Shaft Holder (L)
93	Shaft Holder (R)
94	Motor RF-260T-12250
95	FM Bracket
96	Feed Motor Pulley
97	Feed Belt
98	Screw Ass'y
99	Laser Pick-Up
100	Nut Block
101	Nut Support
102	
103	
104	
105	
106	Elevator
107	Rail (L)
108	Clamper
109	Rail
110	Tray SP Plate
111	Elevator Guide
112	Magnet

PART NO.	ITEM
113	York
114	Lift Pin
115	Lift Up SP Plate
116	
117	
118	
119	DB Stopper
120	Switch Bracket
121	Sensor Bracket
122	Sensor PWB Assy
123	Sensor Bracket Spring
124	Wire
125	Wire
126	Wire
127	Wire
128	Push SW SPPB12
129	8P Wire PU
130	6P Wire PU
181	Rag Plate
132	
133	Shorting Switch SSCTL
134	Bush SW SPPB31
135	Bush SW SPPB22
136	Wire
137	Edge Cover
138	Hook SP Plate
139	
140	
141	
142	+C Tight
143	+C Tight
144	Camera Tapping
145	Screw M2.6 x 2.5
146	E Ring
147	E Ring
148	Camera Screw S Tight
149	Polyslider
150	M3 x 4
151	Camera Screw M2 x 2.8
152	+C Tight
153	Camera Tapping
154	Poly Slider
155	P.W. Cut
156	P Tight
157	PK Collar Screw
158	Poly Slider
159	+C Tight M2 x 9
160	Camera Screw
161	M2.6 x 8
162	M2 x 3
163	M2.6 x 3
164	S Tight M1.7 x 2.2
165	
166	M3 x 3.5
167	Tapping
168	S Tight Guide M2 x 5
169	S Tight Guide M2 x 8
180	1203-01-05 Binder

Disassembly Procedure

1. Removing the Lifter Unit Assembly

1) Turn ON the power, and take out the magazine.
2) Turn OFF the power, disconnect from the mains supply.
3) Remove, the metal cover.
4) Turn screw C about 10 times, counterclockwise.
5) Remove the reinformcing plate (secured by four screws).
6) Turn the upper/lower drive unit pulley in the arrow direction to move up the lifter unit assembly to the STOP position.

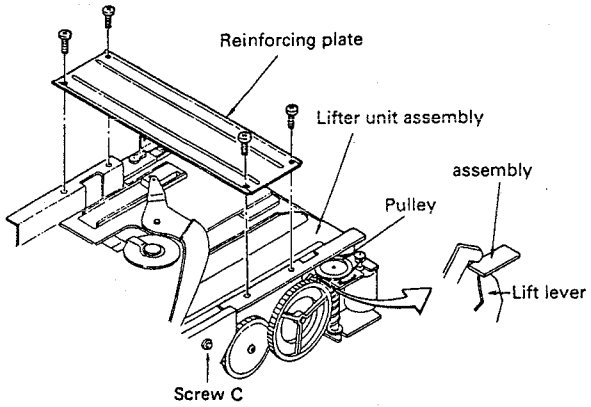


Fig. 7a Fig. 7b

Note: For the lifter unit assembly moving UP position, see Fig. 7b.

7) Remove the tie band.
8) Remove the connectors P202, P202, P501, P503 and P506 from the main PC board.

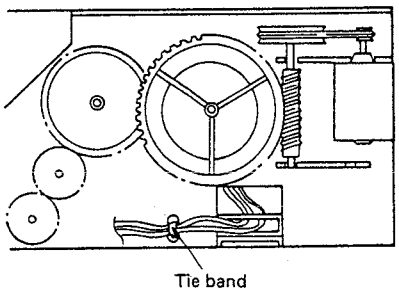


Fig. 8

9) Move the tray stopper.
(To facilitate removing the lifter unit assembly.)

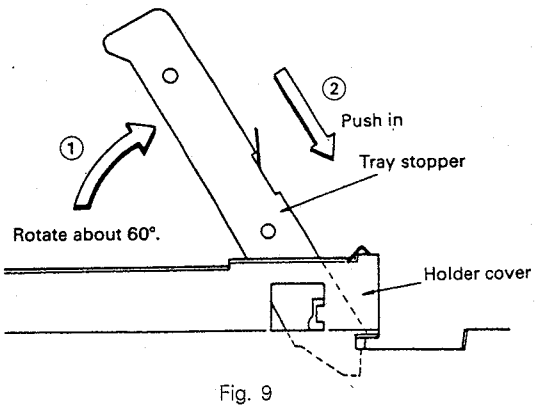


Fig. 9

10) Remove the lifter unit assembly by pulling it up.
11) The view with the lifter unit assembly removed is as shown in Fig. 10.

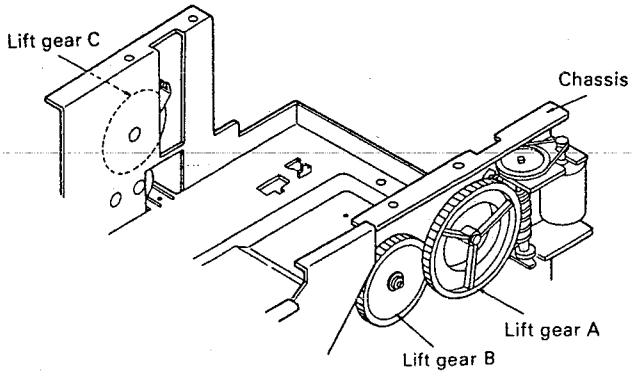


Fig. 10

12) At this time, avoid removing the lift gears A, B and C as far as possible.

Note: If it is necessary to remove these lift gears, reassemble the unit by referring to step 6 on p. 21.

2. Removing the Pickup

1) Turn the set upside down, i.e. bottom uppermost.
2) Remove the screw and foot indicated in Fig. 11.
3) Slide the bottom cover in the arrow direction and hold it up.

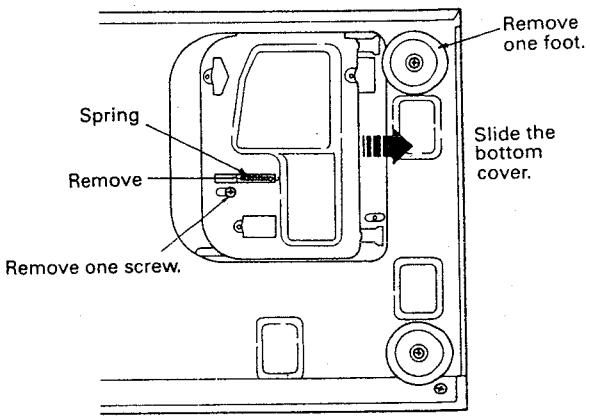


Fig. 11

4) Remove two screws ① and ②, and take off the nut block. (Fig. 12)
5) At this time, the pickup is freely to slide.
6) Remove the screws ③ and ④ fastening two shafts supporting the pickup.
7) Remove two shafts from the pickup.
8) Remove the connector wires (6P, 8P).

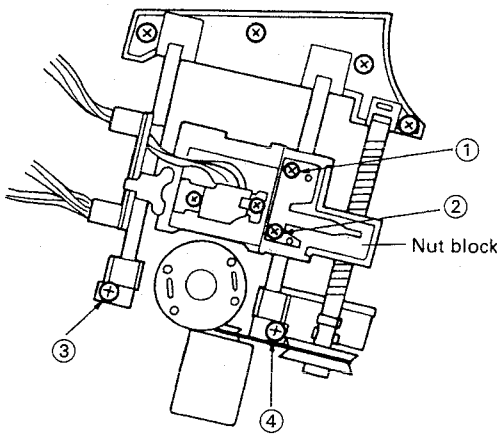


Fig. 12

3. Mounting the Pickup

Basically reverse the removal procedure. Pay attention to the following point.

1) Before mounting the nut block, be sure to slide the pickup up and down the full extent of its travel checking the leads are free, the leads should not be too tight or too loose.

4. Removing the Spindle Motor

1) Remove two slit washers ①.
2) Remove two screws fastening the slide motor bracket ②.
3) Remove four screws fastening the slide base ③.
4) Take off the leaf spring ④.
5) Hold up the slide base and slie it backwards ⑤.

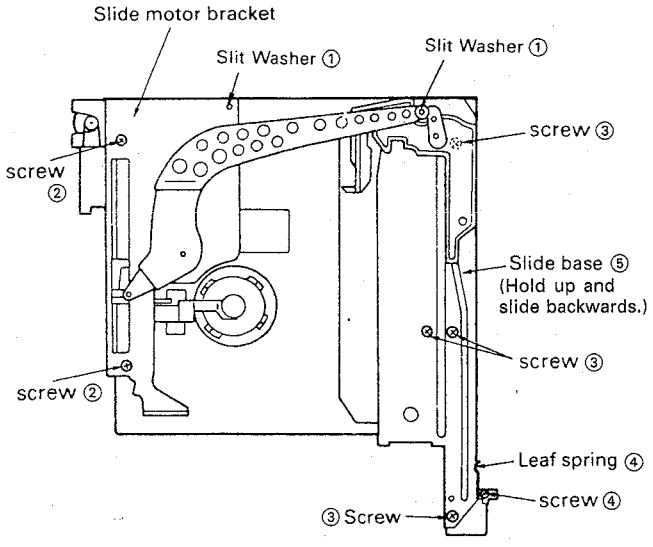


Fig. 13

6) Turn over the unit, and cut the tie band and remove two screws.
Pull the elevator to this side and raise it to remove it.

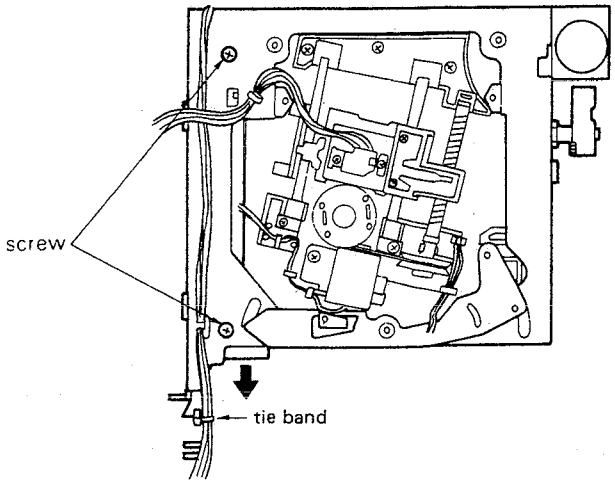


Fig. 14

7) Move the pickup away from the spindle (more than 30mm).
8) Remove the turntable belt, align the screw with two holes, and remove two screws.

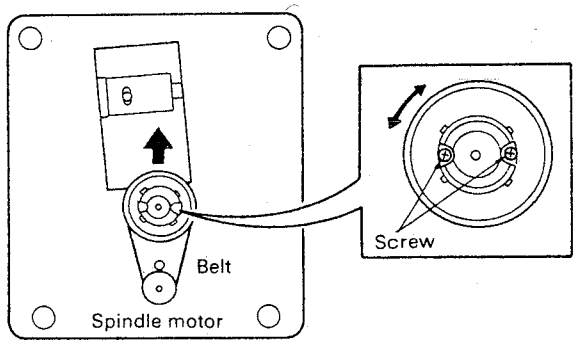


Fig. 15

9) Removable as a spindle motor unit assembly by sliding in the direction of the arrow.
10) Replace as a spindle motor unit assembly.
Fasten with two screws.

5. Removing the Stabilizer

1) Follow the procedure for removing the spindle motor and remove the elevator.

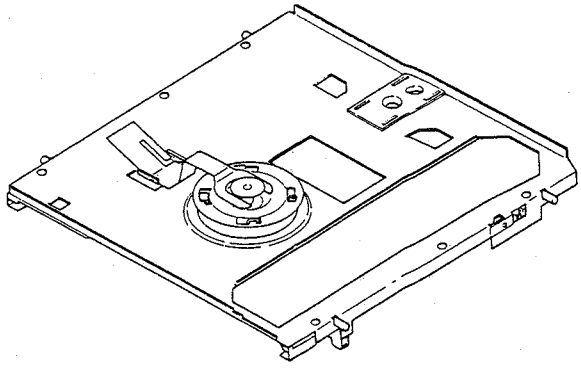


Fig. 16

2) Removing the lift up spring
   (1) Lift part A shown in the diagram and move it all in direction B .
   (2) Now lift part C and remove.

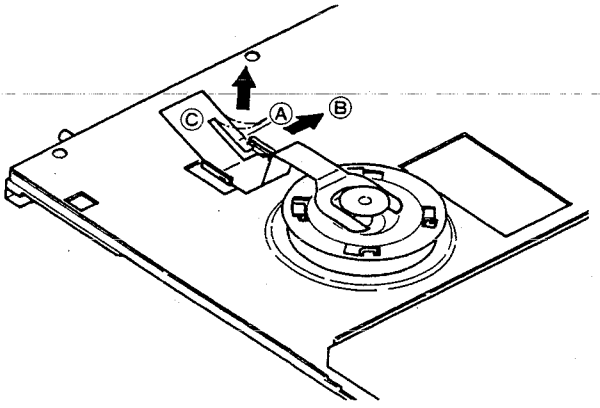


Fig. 17

3) Remove the pin which is pressed down from the top.

Note: Be careful that no forces such as twisting are exerted on the pin and it is removed directly from above.

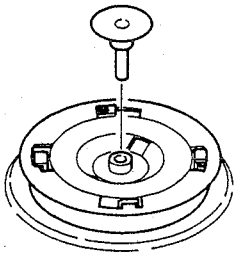


Fig. 18

4) Hold down the stabilizer, turn the yoke, and remove.

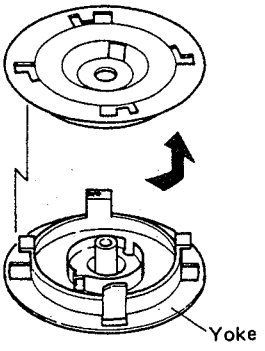


Fig. 19

6. Adjusting the Height of the Lifter Unit Assembly

1) Mout the lift gear (B) assembly ② and lift gar (A) assembly ① on the right side facing to the set.
   At this time, align the markings of two gears as shown in Fig. 20.

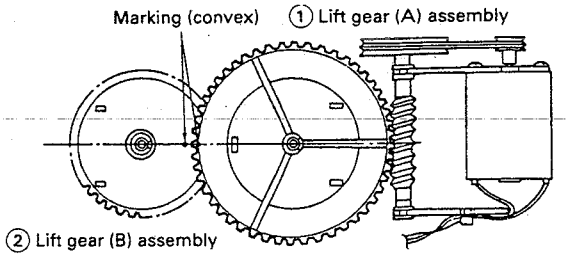


Fig. 20

2) Mount the lift gear (C) assembly ③ on the left side facing to the set. Align the markings of the gear and chassis as shown in Fig. 15.

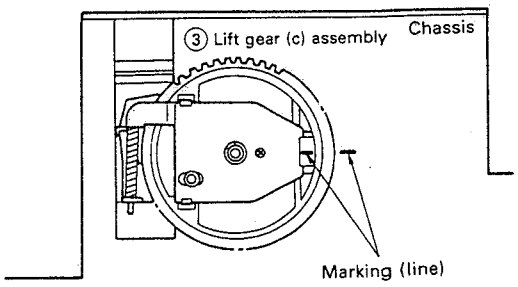


Fig. 21

Note: Align the liftgear assemblies ①, ② and ③ simultaneously.

3) Turn the upper/lower drive unit pulley (clockwise seen from the top). (Set it to the state as shown in Fig. 7a and 7b in "How to remove the lifter unit assembly".)
4) Verify the tray stopper position.
   (Set it to the state as shown in Fig. 9 of "How to remove the lifter unit assembly".
5) Insert the lifter unit assembly.
   (1) Pass the wires through the chassis hole.
   (2) Mount the lifter unit assembly on the lift lever (3 locations).
   (3) Turn the upper/lower drive unit pulley (counterclockwise seen from the top). (The mechanism moves down.)
   If the left side of the lifter unit assembly is difficult to move down at this time, push down the lifter unit assembly and verify the state shown in Fig. 22.

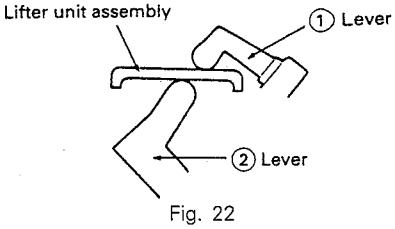


Fig. 22

(The lifter unit assembly should be inserted between the levers ① and ②. (3 locations))

(4) Move the tray stopper.
(Do the procedure of Fig. 3 of "How to remove the lifter unit assembly" in the reverse order.)
(5) Tighten screw A in the Clockwise direction.

6) Turn on the power. Insert the magazine with no trays loaded. Select disc 3 and turn off the power immediately after the lifter unit reaches the height of disc 3 in the magazine.
7) Look in through the window on the front side of the magazine and confirm that the rail of the lifter unit and the guides in the third slot are at the same level.

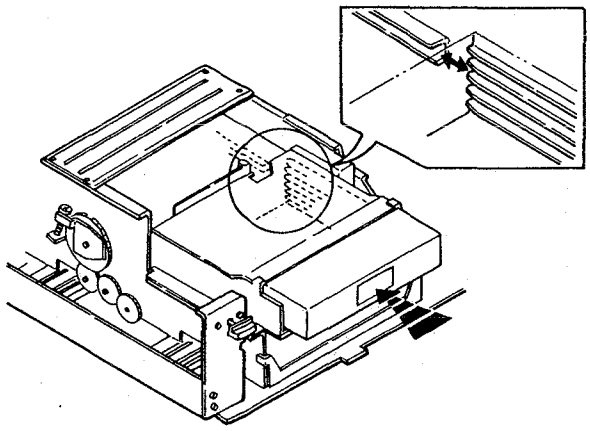


Fig. 23

Check if the left and right rails are horizontal.
- When the left rail is inclined downward.
  Turn the screw A clockwise.
- When the left rail is inclined upward.
  Turn the screw A counter-clockwise.
- When the lifter mechanism is displaced downward.
  Turn the screw B clockwise.
- When the lifter mechanism is displaced upward.
  Turn the screw B counter-clockwise.

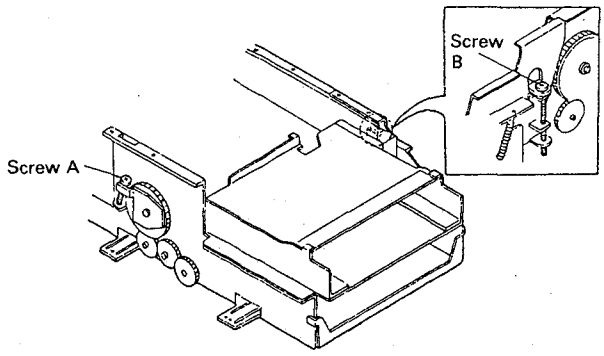


Fig. 24

Turn adjust screw provides electrical adjustment, and the height is not changed. Repeat the above items for adjusting the height.